



# WETLANDS PERMIT APPLICATION

Water Division/ Wetlands Bureau  
Land Resources Management

Check the status of your application: [www.des.nh.gov/onestop](http://www.des.nh.gov/onestop)



RSA/Rule: [RSA 482-A/ Env-Wt 100-900](#)

Applicant's Name Only	Applicant's Address Only	Applicant's Phone Only	Project No. Only
			Project Title Only
			Project Date Only

**1. REVIEW TIME:** Indicate your Review Time below. To determine review time, refer to [Guidance Document A](#) for instructions.

☒ Standard Review (Minimum, Minor or Major Impact)

☐ Expedited Review (Minimum Impact only)

## 2. MITIGATION REQUIREMENT:

If mitigation is required a Mitigation-Pre Application meeting must occur prior to submitting this Wetlands Permit Application. To determine if Mitigation is Required, please refer to the [Determine if Mitigation is Required Frequently Asked Question](#).

Mitigation Pre-Application Meeting Date: Month: \_\_\_ Day: \_\_\_ Year: \_\_\_

☒ N/A - Mitigation is not required

## 3. PROJECT LOCATION:

Separate wetland permit applications must be submitted for each municipality that wetland impacts occur within.

ADDRESS: Old Portland Rd.

TOWN/CITY: FREEDOM

TAX MAP:

BLOCK:

LOT:

UNIT:

USGS TOPO MAP WATERBODY NAME: Bennett Brook

☐ NA

STREAM WATERSHED SIZE: 1132.8 Acres ☐ NA

LOCATION COORDINATES (If known): 43.81005, -71.02569

☒ Latitude/Longitude ☐ UTM

## 4. PROJECT DESCRIPTION:

Provide a brief description of the project outlining the scope of work. Attach additional sheets as needed to provide a detailed explanation of your project. DO NOT reply "See Attached" in the space provided below.

The proposed project will repair the existing 5' by 5' concrete box culvert carrying Old Portland Road over Bennett Brook. Work will involve repairing the top of the box and damaged areas of the box walls, inlet and outlet. This will require the use of staging in the Brook.

## 5. SHORELINE FRONTAGE:

☒ NA This does not have shoreline frontage.

SHORELINE FRONTAGE:

Shoreline frontage is calculated by determining the average of the distances of the actual natural navigable shoreline frontage and a straight line drawn between the property lines, both of which are measured at the normal high water line.

## 6. RELATED NHDES LAND RESOURCES MANAGEMENT PERMIT APPLICATIONS ASSOCIATED WITH THIS PROJECT:

Please indicate if any of the following permit applications are required and, if required, the status of the application.

To determine if other Land Resources Management Permits are required, refer to the [Land Resources Management Web Page](#).

Permit Type	Permit Required	File Number	Permit Application Status
Alteration of Terrain Permit Per RSA 485-A:17	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	_____	<input type="checkbox"/> APPROVED <input type="checkbox"/> PENDING <input type="checkbox"/> DENIED
Individual Sewerage Disposal per RSA 485-A:2	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	_____	<input type="checkbox"/> APPROVED <input type="checkbox"/> PENDING <input type="checkbox"/> DENIED
Subdivision Approval Per RSA 485-A	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	_____	<input type="checkbox"/> APPROVED <input type="checkbox"/> PENDING <input type="checkbox"/> DENIED
Shoreland Permit Per RSA 483-B	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	_____	<input type="checkbox"/> APPROVED <input type="checkbox"/> PENDING <input type="checkbox"/> DENIED

## 7. NATURAL HERITAGE BUREAU & DESIGNATED RIVERS:

See the Instructions & Required Attachments document for instructions to complete a & b below.

a. Natural Heritage Bureau File ID: NHB 16 - 1995

b. ☐ Designated River the project is in ¼ miles of: \_\_\_\_\_; and

date a copy of the application was sent to the [Local River Management Advisory Committee](#): Month: \_\_\_ Day: \_\_\_ Year: \_\_\_

☒ N/A

[shoreland@des.nh.gov](mailto:shoreland@des.nh.gov) or (603) 271-2147

NHDES Wetlands Bureau, 29 Hazen Drive, PO Box 95, Concord, NH 03302-0095

[www.des.nh.gov](http://www.des.nh.gov)

**8. APPLICANT INFORMATION (Desired permit holder)**

LAST NAME, FIRST NAME, M.I.: Rollins, William, G

TRUST / COMPANY NAME: NHDOT District 3

MAILING ADDRESS: 2 Sawmill Road

TOWN/CITY: Gilford

STATE: NH

ZIP CODE: 03249

EMAIL or FAX: wrollins@dot.state.nh.us

PHONE: (603) 524-6667

ELECTRONIC COMMUNICATION: By initialing here: WR I hereby authorize NHDES to communicate all matters relative to this application electronically**9. PROPERTY OWNER INFORMATION (If different than applicant)**

LAST NAME, FIRST NAME, M.I.:

TRUST / COMPANY NAME:

MAILING ADDRESS:

TOWN/CITY:

STATE:

ZIP CODE:

EMAIL or FAX:

PHONE:

ELECTRONIC COMMUNICATION: By initialing here \_\_\_\_\_, I hereby authorize NHDES to communicate all matters relative to this application electronically

**10. AUTHORIZED AGENT INFORMATION**

LAST NAME, FIRST NAME, M.I.:

COMPANY NAME:

MAILING ADDRESS:

TOWN/CITY:

STATE:

ZIP CODE:

EMAIL or FAX:

PHONE:

ELECTRONIC COMMUNICATION: By initialing here \_\_\_\_\_, I hereby authorize NHDES to communicate all matters relative to this application electronically

**11. PROPERTY OWNER SIGNATURE:**

See the Instructions &amp; Required Attachments document for clarification of the below statements

By signing the application, I am certifying that:

1. I authorize the applicant and/or agent indicated on this form to act in my behalf in the processing of this application, and to furnish upon request, supplemental information in support of this permit application.
2. I have reviewed and submitted information & attachments outlined in the Instructions and Required Attachment document.
3. All abutters have been identified in accordance with RSA 482-A:3, I and Env-Wt 100-900.
4. I have read and provided the required information outlined in Env-Wt 302.04 for the applicable project type.
5. I have read and understand Env-Wt 302.03 and have chosen the least impacting alternative.
6. Any structure that I am proposing to repair/replace was either previously permitted by the Wetlands Bureau or would be considered grandfathered per Env-Wt 101.47.
7. I have submitted a Request for Project Review (RPR) Form ([www.nh.gov/nhdhr/review](http://www.nh.gov/nhdhr/review)) to the NH State Historic Preservation Officer (SHPO) at the NH Division of Historical Resources to identify the presence of historical/ archeological resources while coordinating with the lead federal agency for NHPA 106 compliance.
8. I authorize NHDES and the municipal conservation commission to inspect the site of the proposed project.
9. I have reviewed the information being submitted and that to the best of my knowledge the information is true and accurate.
10. I understand that the willful submission of falsified or misrepresented information to the New Hampshire Department of Environmental Services is a criminal act, which may result in legal action.
11. I am aware that the work I am proposing may require additional state, local or federal permits which I am responsible for obtaining.
12. The mailing addresses I have provided are up to date and appropriate for receipt of NHDES correspondence. NHDES will not



William Rollins

Property Owner Signature

William Rollins

Print name legibly

10/31/2016

Date

[shoreland@des.nh.gov](mailto:shoreland@des.nh.gov) or (603) 271-2147

NHDES Wetlands Bureau, 29 Hazen Drive, PO Box 95, Concord, NH 03302-0095

[www.des.nh.gov](http://www.des.nh.gov)

## MUNICIPAL SIGNATURES

### 12. CONSERVATION COMMISSION SIGNATURE

The signature below certifies that the municipal conservation commission has reviewed this application, and:

1. Waives its right to intervene per RSA 482-A:11;
2. Believes that the application and submitted plans accurately represent the proposed project; and
3. Has no objection to permitting the proposed work.



Print name legibly

Date

#### DIRECTIONS FOR CONSERVATION COMMISSION

1. Expedited review ONLY requires that the conservation commission's signature is obtained in the space above.
2. Expedited review requires the Conservation Commission signature be obtained prior to the submittal of the original application to the Town/City Clerk for signature.
3. The Conservation Commission may refuse to sign. If the Conservation Commission does not sign this statement for any reason, the application is not eligible for expedited review and the application will reviewed in the standard review time frame.

### 13. TOWN / CITY CLERK SIGNATURE

As required by Chapter 482-A:3 (amended 2014), I hereby certify that the applicant has filed four application forms, four detailed plans, and four USGS location maps with the town/city indicated below.



Town/City Clerk Signature

Print name legibly

Town/City

Date

#### DIRECTIONS FOR TOWN/CITY CLERK:

Per RSA 482-A:3,I

1. For applications where "Expedited Review" is checked on page 1, if the Conservation Commission signature is not present, NHDES will accept the permit application, but it will NOT receive the expedited review time.
2. IMMEDIATELY sign the original application form and four copies in the signature space provided above;
3. Return the signed original application form and attachments to the applicant so that the applicant may submit the application form and attachments to NHDES by mail or hand delivery.
4. IMMEDIATELY distribute a copy of the application with one complete set of attachments to each of the following bodies: the municipal Conservation Commission, the local governing body (Board of Selectmen or Town/City Council), and the Planning Board; and
5. Retain one copy of the application form and one complete set of attachments and make them reasonably accessible for public review.

#### DIRECTIONS FOR APPLICANT:

1. Submit the single, original permit application form bearing the signature of the Town/ City Clerk, additional materials, and the application fee to NHDES by mail or hand delivery.



**14. IMPACT AREA:**

For each jurisdictional area that will be/has been impacted, provide square feet and, if applicable, linear feet of impact

**Permanent:** impacts that will remain after the project is complete.

**Temporary:** impacts not intended to remain (and will be restored to pre-construction conditions) after the project is complete.

JURISDICTIONAL AREA	PERMANENT Sq. Ft. / Lin. Ft.	TEMPORARY Sq. Ft. / Lin. Ft.
Forested wetland	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Scrub-shrub wetland	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Emergent wetland	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Wet meadow	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Intermittent stream	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Perennial Stream / River	30 / 30 <input type="checkbox"/> ATF	400 / 40 <input type="checkbox"/> ATF
Lake / Pond	/ <input type="checkbox"/> ATF	/ <input type="checkbox"/> ATF
Bank - Intermittent stream	/ <input type="checkbox"/> ATF	/ <input type="checkbox"/> ATF
Bank - Perennial stream / River	/ <input type="checkbox"/> ATF	/ <input type="checkbox"/> ATF
Bank - Lake / Pond	/ <input type="checkbox"/> ATF	/ <input type="checkbox"/> ATF
Tidal water	/ <input type="checkbox"/> ATF	/ <input type="checkbox"/> ATF
Salt marsh	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Sand dune	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Prime wetland	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Prime wetland buffer	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Undeveloped Tidal Buffer Zone (TBZ)	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Previously-developed upland in TBZ	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Docking - Lake / Pond	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Docking - River	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
Docking - Tidal Water	<input type="checkbox"/> ATF	<input type="checkbox"/> ATF
<b>TOTAL</b>	<b>30 / 30</b>	<b>400 / 40</b>

**15. APPLICATION FEE:** See the Instructions & Required Attachments document for further instruction

☐ Minimum Impact Fee: Flat fee of \$ 200

☒ Minor or Major Impact Fee: Calculate using the below table below

Permanent and Temporary (non-docking)	430 sq. ft.	X \$0.20 =	\$ 86.00
Temporary (seasonal) docking structure:	0 sq. ft.	X \$1.00 =	\$ 0
Permanent docking structure:	0 sq. ft.	X \$2.00 =	\$ 0
Projects proposing shoreline structures (including docks) add \$200 =			\$ 0
Total =			\$ 86.00

The Application Fee is the above calculated Total or \$200, whichever is greater = **\$ 200**

[shoreland@des.nh.gov](mailto:shoreland@des.nh.gov) or (603) 271-2147

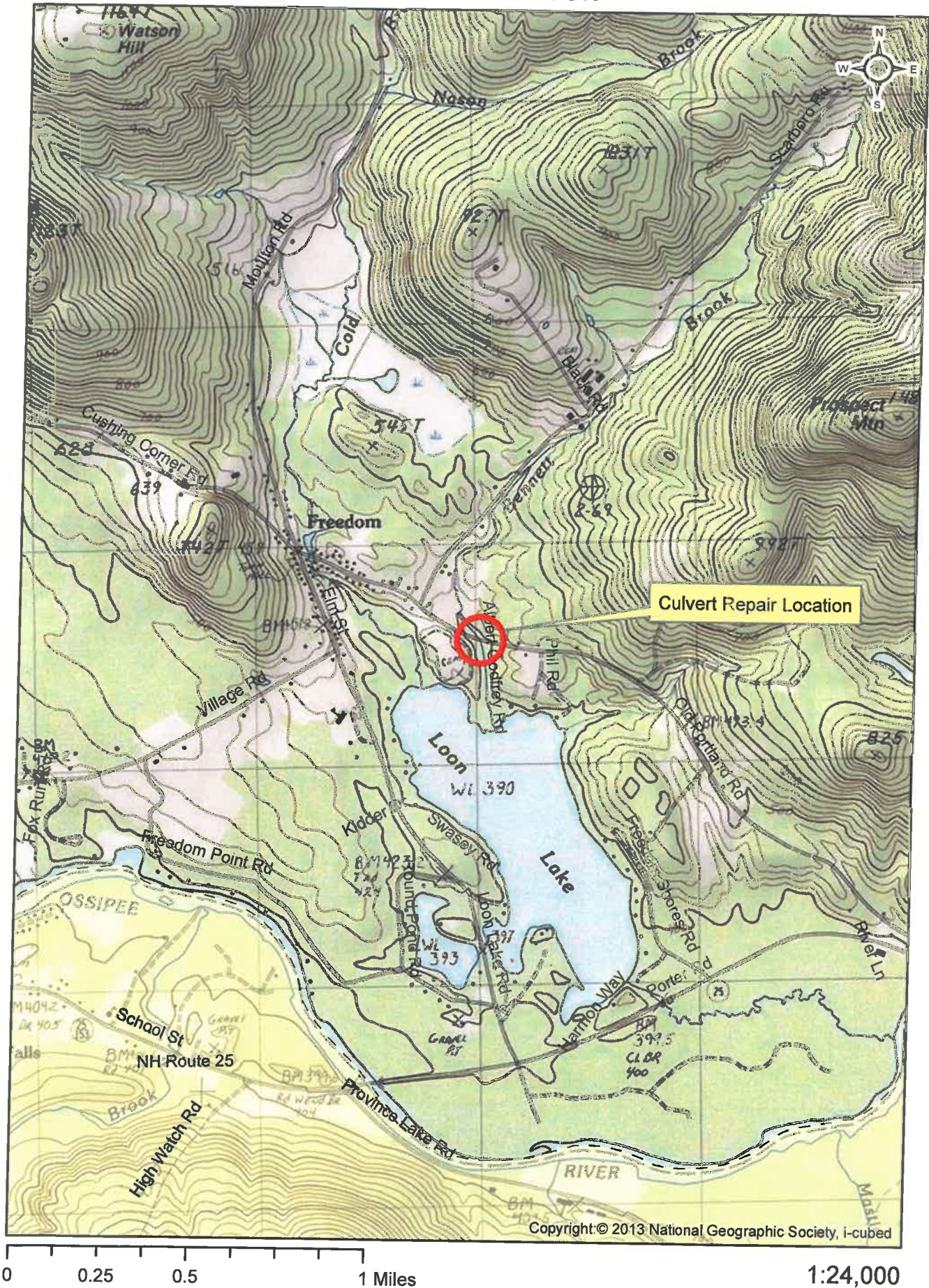
NHDES Wetlands Bureau, 29 Hazen Drive, PO Box 95, Concord, NH 03302-0095

[www.des.nh.gov](http://www.des.nh.gov)



# Freedom 1832H Topographic Map

## Old Portland Road over Bennet Brook





# WETLANDS PERMIT APPLICATION – ATTACHMENT A MINOR AND MAJOR - 20 QUESTIONS

Water Division/ Wetlands Bureau/ Land Resources Management  
Check the Status of your application: [www.des.nh.gov/onestop](http://www.des.nh.gov/onestop)



**RSA/ Rule:** RSA 482-A, Env-Wt 100-900

**Env-Wt 302.04 Requirements for Application Evaluation** - For any major or minor project, the applicant shall demonstrate by plan and example that the following factors have been considered in the project's design in assessing the impact of the proposed project to areas and environments under the department's jurisdiction. Respond with statements demonstrating:

1. The need for the proposed impact.

The proposed project is necessary to repair a concrete box culvert which has deteriorated to the point of being structurally deficient. There is spalled concrete on the walls and large areas of missing concrete on the ceiling, causing the exposed rebar supports to rust and bend. Repouring concrete on the walls and roof will repair and extend the functional lifespan of the culvert and prevent collapse of the culvert. This is necessary to maintain the safety of the traveling public at this crossing.

2. That the alternative proposed by the applicant is the one with the least impact to wetlands or surface waters on site.

The no build option would eventually lead to the collapse of the culvert and an extensive emergency replacement operation would likely involve a significant impact to the stream. Replacing the culvert right now would also have a large impact to the stream bed, banks and surrounding wetlands due to the excavation necessary to remove the box and install a new one. Repairing the existing culvert, as proposed, does not require excavation and has relatively minimal impacts to the stream. Permanent impacts result from the increased area of concrete inside the culvert due to pouring an additional 6" of concrete over the existing walls. The temporary impact associated with repair is due to the placement of scaffolding in the brook to properly repair the roof, as well as the disturbance associated with construction crew accessing the inside of the culvert.

3. The type and classification of the wetlands involved.

**R2UB1,2: Riverine, Lower Perennial, Unconsolidated bottom, cobble-gravel/sand**

4. The relationship of the proposed wetlands to be impacted relative to nearby wetlands and surface waters.

**Bennett Brook flows into Look Lake approximately 0.25 miles south of the project area.**

5. The rarity of the wetland, surface water, sand dunes, or tidal buffer zone area.

**The stream type impacted by the project is common in New Hampshire.**

6. The surface area of the wetlands that will be impacted.

**Temporary impact: 400 s.f.**

**Permanent impact: 30 s.f.**

**Total impact: 430 s.f.**

7. The impact on plants, fish and wildlife including, but not limited to:
- a. Rare, special concern species;
  - b. State and federally listed threatened and endangered species;
  - c. Species at the extremities of their ranges;
  - d. Migratory fish and wildlife;
  - e. Exemplary natural communities identified by the DRED-NHB; and
  - f. Vernal pools.

- a. There are no rare species or species of special concerns within the project impact area
- b. The NH Natural Heritage Bureau has reviewed the project area and found that there are no known records of any state or federally listed threatened or endangered species in the vicinity crossing. The US Fish and Wildlife Service has also been consulted via the online Information for Planning and Conservation Tool and indicated that the project is located within the range of the small whorled pogonia and the northern long-eared bat, both federally threatened species. The USFWS Section 7 online review tool was used to further consult with USFWS regarding impacts to the small whorled pogonia, and it was determined that this plant is not known to occur in the Town of Freedom and therefore will not be affected by the project. This project meets the requirements for the final 4(d) exempting certain transportation project activities from the prohibition on take which would otherwise limit work within northern long-eared bat habitat. The US Army Corps of Engineers is the lead federal agency for this project and has completed the necessary Section 7 consultation using the final 4(d) rule, no further consultation with the USFWS is necessary.
- c. There are no species at the extremities of their ranges within the project area.
- d. No migratory fish or wildlife will be impacted by the proposed activities.
- e. The NHHNB has reviewed the project area and confirmed that there are no exemplary natural communities within the project area.
- f. Based on the wetland delineations performed in the field, there are no vernal pools within the project area.

8. The impact of the proposed project on public commerce, navigation and recreation.

The proposed repair will extend the life of the culvert with minimal disruption during construction resulting in a benefit to public commerce, navigation and recreation by allowing continued safe usage of the roadway for the traveling public.

9. The extent to which a project interferes with the aesthetic interests of the general public. For example, where an applicant proposes the construction of a retaining wall on the bank of a lake, the applicant shall be required to indicate the type of material to be used and the effect of the construction of the wall on the view of other users of the lake.

There will be no change to the overall aesthetic of the project area.



10. The extent to which a project interferes with or obstructs public rights of passage or access. For example, where the applicant proposes to construct a dock in a narrow channel, the applicant shall be required to document the extent to which the dock would block or interfere with the passage through this area.

**There will be no interference with public rights of passage or access.**

11. The impact upon abutting owners pursuant to RSA 482-A:11, II. For example, if an applicant is proposing to rip-rap a stream, the applicant shall be required to document the effect of such work on upstream and downstream abutting properties.

**The proposed work will not have a negative effect on any surrounding abutters.**

12. The benefit of a project to the health, safety, and well being of the general public.

**The proposed project will benefit the public by extending the functional lifespan of the culvert and allowing the traveling public to safely cross Bennett Brook.**

13. The impact of a proposed project on quantity or quality of surface and ground water. For example, where an applicant proposes to fill wetlands the applicant shall be required to document the impact of the proposed fill on the amount of drainage entering the site versus the amount of drainage exiting the site and the difference in the quality of water entering and exiting the site.

**The project will not result in any negative impacts to water quality as there is no excavation, no fill in wetlands and no increase in imperivous surface anticipated.**

14. The potential of a proposed project to cause or increase flooding, erosion, or sedimentation.

**The project will not cuase an increase in flooding, erosion or sedimentation but will stabilize the structurally deficient culvert and therefore avoid a future emernegy event which could destabilizing the stream and its banks.**

15. The extent to which a project that is located in surface waters reflects or redirects current or wave energy which might cause damage or hazards.

**The proposed project will not reflect or redirect wave energy or casue damage or hazard to human life or property.**

16. The cumulative impact that would result if all parties owning or abutting a portion of the affected wetland or wetland complex were also permitted alterations to the wetland proportional to the extent of their property rights. For example, an applicant who owns only a portion of a wetland shall document the applicant's percentage of ownership of that wetland and the percentage of that ownership that would be impacted.

**The proposed impact area is minimal and it is unlikely that any abutters or nearby property owners would propose the same kind of activity.**

17. The impact of the proposed project on the values and functions of the total wetland or wetland complex.

**The propose project will not impact the functions and values of the wetland complex as all permanetne impacts are limited to 6" strips along the existing culvert walls.**



18. The impact upon the value of the sites included in the latest published edition of the National Register of Natural Landmarks, or sites eligible for such publication.

**There are no sites such as the ones described above in the vicinity of the project area.**

19. The impact upon the value of areas named in acts of congress or presidential proclamations as national rivers, national wilderness areas, national lakeshores, and such areas as may be established under federal, state, or municipal laws for similar and related purposes such as estuarine and marine sanctuaries.

**There are no sites such as the ones described above within the project area.**

20. The degree to which a project redirects water from one watershed to another.

**The proposed project does not redirect water from one watershed to another.**

Additional comments

**Freedom #1832H**

Bill Rollins gave an overview of the project. Bridge Maintenance will be performing the work. They plan to do the majority of the work from the top by taking out the roof and adding a new roof that can support the present day traffic load. Again they plan to use scaffolding in the river which will cause temporary wetland impacts. There are alternative routes and could detour so they could close the road and work on the bridge all at once, or could do it in halves and have one lane of traffic.

Matt Urban gave a run down of the environmental aspects and components. There are invasives located at this site and they will follow the manual for proper procedures. The stream is Tier 3. Mike Hicks asked if there are any historic properties on site. Matt Urban responded back no. It was asked where the invasives were located. M. Urban wasn't sure and we couldn't locate them in the pictures. M. Urban said he would check the location of the invasives and the note about their presence at this site.

M. Urban asked if mitigation would be required for this project. Lori Sommers responded no. Gino Infascelli mentioned that there could be possible wetland impacts upstream; looking at an aerial the N/W are was looking greyish. M. Urban agreed and stated that we have mapped out the wetland areas. G. Infascelli stated that it looked like there is enough shoulder that wetland impacts could be avoided.

M. Urban asked if B. Rollins knew which side Bridge Maintenance wants to access the bridge from. B. Rollins did not know but plans to check with Bridge Maintenance. M. Urban ask that that be included/ noted in the permit application. Carol Henderson ask if the project was to be worked on this winter. M. Urban responded yes.

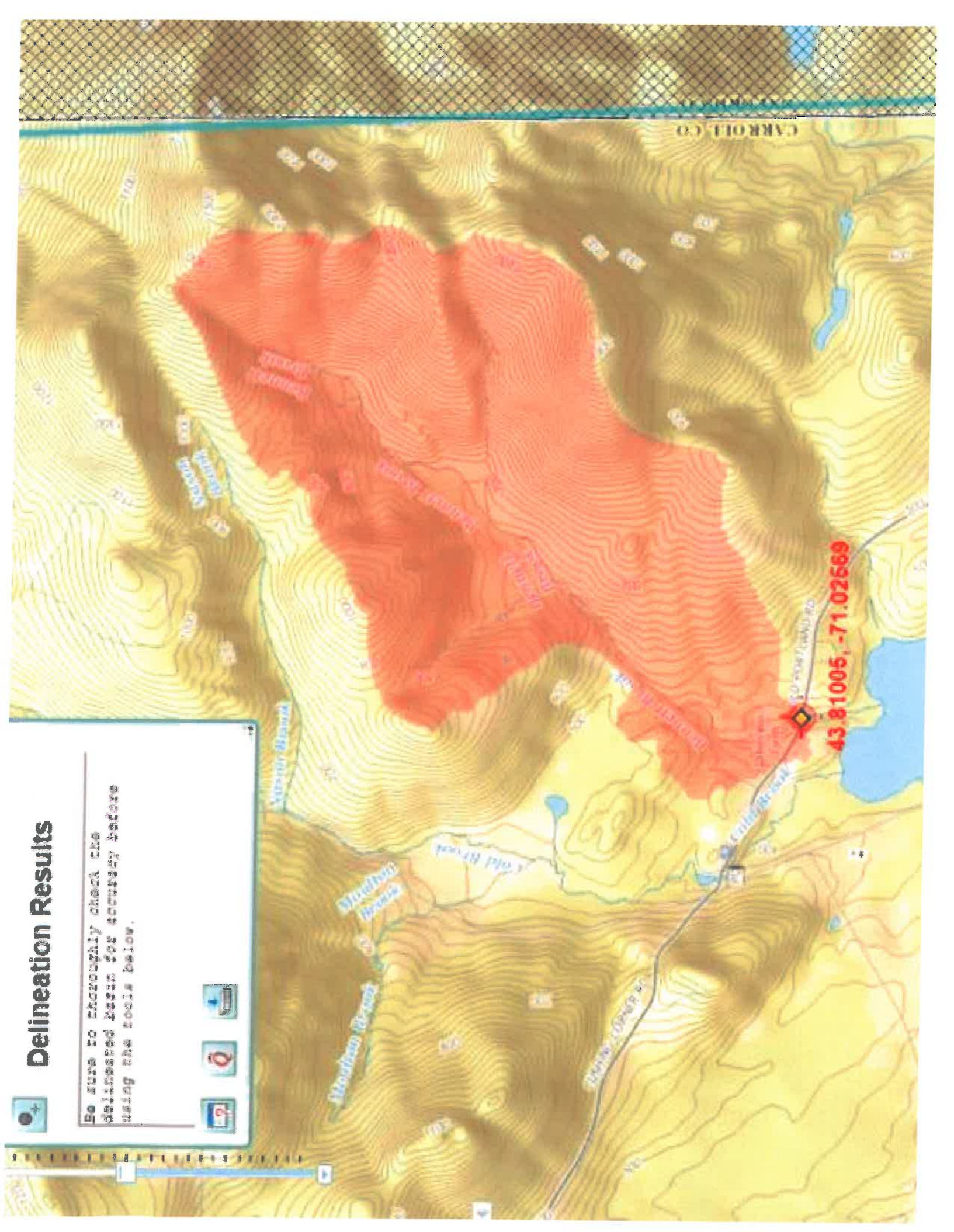


## Delineation Results

Be sure to thoroughly check the delineated basin for accuracy before using the tools below.

CARROLL CO

43.81005, -71.02669



**NH Department of Transportation  
Maintenance District 3  
Freedom, 1832H Old Portland Road over Bennett Brook  
Env-Wt 904.09 Alternative Design  
TECHNICAL REPORT**

**Env-Wt 904.09(a) - If the applicant believes that installing the structure specified in the applicable rule is not practicable, the applicant may propose an alternative design in accordance with this section.**

Please explain why the structure specified in the applicable rule is not practicable (Env-Wt 101.69 defines practicable as *available and capable of being done after taking into consideration costs, existing technology, and logistics in light of overall project purposes.*)

The Old Portland Road over Bennett Brook is a Tier 3 stream crossing located in a 1132.8 acre drainage area. The compliant size structures required for this crossing would be a 62 foot open-bottom structure. The existing crossing has substantial areas of spalled concrete on the walls and top which require pouring new concrete patches over the walls and replacing the top but is otherwise functioning sufficiently. Installing a new compliant structure would have significantly more impact to wetlands and the community during construction due to road closure and is extremely cost prohibitive. Since the issues with the culvert can be fixed through maintenance and this strategy has very limited impacts, this is the proposed alternative.

**The proposed alternative meets the specific design criteria for Tier 2 and Tier 3 crossings to the maximum extent practicable, as specified below.**

**Env-Wt 904.05 Design Criteria for Tier 2 and Tier 3 Stream Crossings** – New Tier 2 stream crossings, replacement Tier 2 crossings that do not meet the requirements of Env-Wt 904.07, and new and replacement Tier 3 crossings shall be designed and constructed:

(a) In accordance with the NH Stream Crossing Guidelines.

This project will not replace the existing 5.5' x 5' box. Work is limited to replacing the top and pouring concrete along the scaling concrete walls.

(b) With bed forms and streambed characteristics necessary to cause water depths and velocities within the crossing structure at a variety of flows to be comparable to those found in the natural channel upstream and downstream of the stream crossing.

Pouring concrete along the existing walls will not change the characteristics of the crossing.

(c) To provide a vegetated bank on both sides of the watercourse to allow for wildlife passage. The existing vegetated bank will be maintained.

(d) To preserve the natural alignment and gradient of the stream channel, so as to accommodate natural flow regimes and the functioning of the natural floodplain.

The alignment will not be changed.

(e) To accommodate the 100-year frequency flood, to ensure that (1) there is no increase in flood stages on abutting properties; and (2) flow and sediment transport characteristics will not be affected in a manner which could adversely affect channel stability.

This box does not have a history of flooding and existing flows and flood elevations will be maintained.

(f) To simulate a natural stream channel.  
No changes to the stream channel as it exists are proposed.

(g) So as not to alter sediment transport competence.  
Sediment transport will not be changed

**Env-Wt 904.09(c)(3) – The alternative design must meet the general design criteria specified in Env-Wt 904.01:**

Env-Wt 904.01

(a) Not be a barrier to sediment transport;  
The culvert as it exist is not a barrier to sediment transport.

(b) Prevent the restriction of high flows and maintain existing low flows;  
No significant changes are proposed therefor existing flows and flood elevations will be maintained.

(c) Not obstruct or otherwise substantially disrupt the movement of aquatic life indigenous to the waterbody beyond the actual duration of construction;  
No changes are proposed.

(d) Not cause an increase in the frequency of flooding or overtopping of banks;  
No significant changes are proposed therefor existing flows and flood elevations will be maintained.

(e) Preserve watercourse connectivity where it currently exists;  
Watercourse connectivity will remain unchanged.

(f) Restore watercourse connectivity where: (1) Connectivity previously was disrupted as a result of human activity(ies); and (2) Restoration of connectivity will benefit aquatic life upstream or downstream of the crossing, or both;  
Watercourse connectivity is maintained as there will be no significant changes to the existing crossing.

(g) Not cause erosion, aggradation, or scouring upstream or downstream of the crossing; and  
The existing box does not cause erosion, aggradation, or scouring.

(h) Not cause water quality degradation.  
There will be no effect on water quality.

**\*\*\*Note: An alternative design for Tier 1 stream crossings must meet the general design criteria (Env-Wt 904.01) only to the *maximum extent practicable*.**





## New Hampshire Natural Heritage Bureau

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**To:** Melilotus Dube  
7 Hazen Drive  
Concord, NH 03301

**Date:** 6/22/2016

**From:** NH Natural Heritage Bureau

**Re:** Review by NH Natural Heritage Bureau of request dated 6/22/2016  
NHB File ID: NHB16-1995

Applicant: Melilotus Dube

Location: Tax Map(s)/Lot(s):  
Freedom

Project Description: NHDOT 1832H. Repair top of box culvert and eroded  
concrete at base of box and wingwalls.

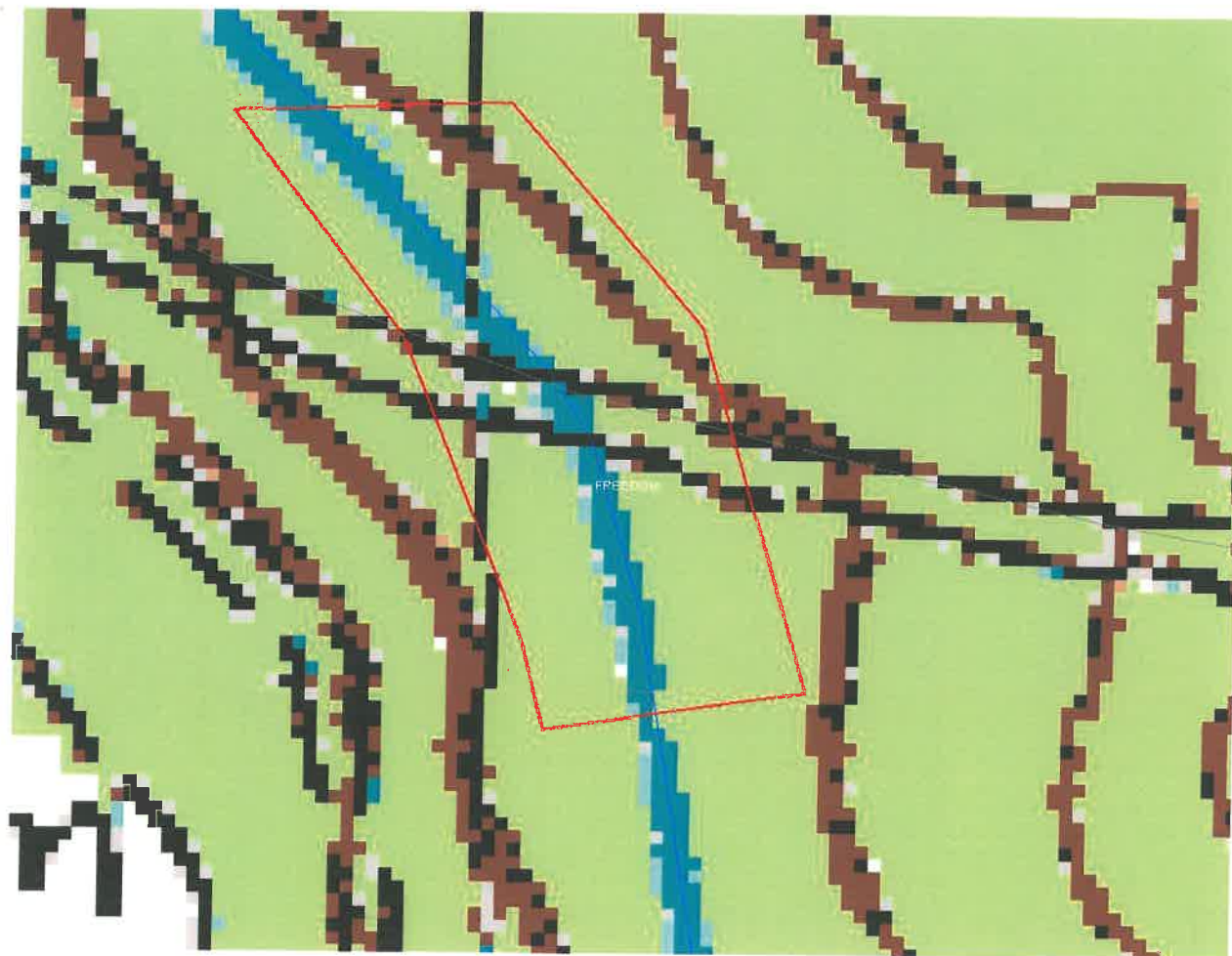
The NH Natural Heritage database has been checked for records of rare species and exemplary natural communities near the area mapped below. The species considered include those listed as Threatened or Endangered by either the state of New Hampshire or the federal government. We currently have no recorded occurrences for sensitive species near this project area.

A negative result (no record in our database) does not mean that a sensitive species is not present. Our data can only tell you of known occurrences, based on information gathered by qualified biologists and reported to our office. However, many areas have never been surveyed, or have only been surveyed for certain species. An on-site survey would provide better information on what species and communities are indeed present.

This report is valid through 6/21/2017.



**MAP OF PROJECT BOUNDARIES FOR NHB FILE ID: NHB16-1995**





# United States Department of the Interior



FISH AND WILDLIFE SERVICE  
New England Ecological Services Field Office  
70 COMMERCIAL STREET, SUITE 300  
CONCORD, NH 03301  
PHONE: (603)223-2541 FAX: (603)223-0104  
URL: [www.fws.gov/newengland](http://www.fws.gov/newengland)

Consultation Code: 05E1NE00-2016-SLI-1664

June 22, 2016

Event Code: 05E1NE00-2016-E-02412

Project Name: Freedom

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

## To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.



A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan ([http://www.fws.gov/windenergy/eagle\\_guidance.html](http://www.fws.gov/windenergy/eagle_guidance.html)). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment



United States Department of Interior  
Fish and Wildlife Service

Project name: Freedom

## Official Species List

**Provided by:**

New England Ecological Services Field Office  
70 COMMERCIAL STREET, SUITE 300  
CONCORD, NH 03301  
(603) 223-2541  
<http://www.fws.gov/newengland>

**Consultation Code:** 05E1NE00-2016-SLI-1664

**Event Code:** 05E1NE00-2016-E-02412

**Project Type:** TRANSPORTATION

**Project Name:** Freedom

**Project Description:** Old Portland Road over Bennet Brook- box culvert repair

**Please Note:** The FWS office may have modified the Project Name and/or Project Description, so it may be different from what was submitted in your previous request. If the Consultation Code matches, the FWS considers this to be the same project. Contact the office in the 'Provided by' section of your previous Official Species list if you have any questions or concerns.



United States Department of Interior  
Fish and Wildlife Service

Project name: Freedom

### Project Location Map:



**Project Coordinates:** MULTIPOLYGON (((-71.0258549451828 43.81045310706631, -71.0258013010025 43.80987630350885, -71.02550089359283 43.80986856114133, -71.02555453777313 43.81045310706631, -71.0258549451828 43.81045310706631)))

**Project Counties:** Carroll, NH



United States Department of Interior  
Fish and Wildlife Service

Project name: Freedom

## Endangered Species Act Species List

There are a total of 2 threatened or endangered species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

Flowering Plants	Status	Has Critical Habitat	Condition(s)
Small Whorled pogonia ( <i>Isotria medeoloides</i> )	Threatened		
<b>Mammals</b>			
Northern long-eared Bat ( <i>Myotis septentrionalis</i> )	Threatened		



United States Department of Interior  
Fish and Wildlife Service

Project name: Freedom

## **Critical habitats that lie within your project area**

There are no critical habitats within your project area.





# United States Department of the Interior

## FISH AND WILDLIFE SERVICE

New England Field Office  
70 Commercial Street, Suite 300  
Concord, NH 03301-5087  
<http://www.fws.gov/newengland>



January 22, 2016

To Whom It May Concern:

This project was reviewed for the presence of federally listed or proposed, threatened or endangered species or critical habitat per instructions provided on the U.S. Fish and Wildlife Service's New England Field Office website:

<http://www.fws.gov/newengland/EndangeredSpec-Consultation.htm> (accessed January 2016)

Based on information currently available to us, no federally listed or proposed, threatened or endangered species or critical habitat under the jurisdiction of the U.S. Fish and Wildlife Service are known to occur in the project area(s). Preparation of a Biological Assessment or further consultation with us under section 7 of the Endangered Species Act is not required. No further Endangered Species Act coordination is necessary for a period of one year from the date of this letter, unless additional information on listed or proposed species becomes available.

Thank you for your cooperation. Please contact Maria Tur of this office at 603-223-2541 if we can be of further assistance.

Sincerely yours,

Thomas R. Chapman  
Supervisor  
New England Field Office

**FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES  
IN NEW HAMPSHIRE**

COUNTY	SPECIES	FEDERAL STATUS	GENERAL LOCATION/HABITAT	TOWNS
Belknap	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Meredith, Alton and Laconia
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Carroll	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Albany, Brookfield, Eaton, Effingham, Madison, Ossipee, Wakefield and Wolfeboro
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Coos	Canada Lynx	Threatened	Regenerating softwood forest, usually with a high density of snowshoe hare.	All Towns
	Dwarf wedgemussel	Endangered	Connecticut River main channel and Johns River	Northumberland, Lancaster and Dalton
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Cheshire	Dwarf wedgemussel	Endangered	S. Branch Ashuelot River and Ashuelot River	Swanzy, Keene and Surry
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Grafton	Dwarf wedgemussel	Endangered	Connecticut River main channel	Haverhill, Piermont, Orford and Lyme
	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Holderness
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Hillsborough	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Manchester, Weare
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Merrimack	Karner Blue Butterfly	Endangered	Pine Barrens with wild blue lupine	Concord and Pembroke
	Small whorled Pogonia	Threatened	Forests	Bow, Danbury, Epsom, Loudon, Warner and Allenstown
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide

## Dube, Melilotus

---

**From:** Hicks, Michael C NAE <Michael.C.Hicks@usace.army.mil>  
**Sent:** Tuesday, September 06, 2016 3:23 PM  
**To:** Dube, Melilotus  
**Cc:** Ryan, Kerry  
**Subject:** RE: NHDOT District 3 Maintenance Projects NLEB Coordination- Wolfeboro, Tilton, Freedom, Eaton

For the Freedom, Eaton and Wolfeboro projects, the Corps has made the No Affect call with no need to consult.

Thanks,  
Michael Hicks, PM  
USACE, REG DIV., BR. C  
978-318-8157

-----Original Message-----

**From:** Dube, Melilotus [<mailto:MDube@dot.state.nh.us>]  
**Sent:** Tuesday, September 06, 2016 2:48 PM  
**To:** Hicks, Michael C NAE <Michael.C.Hicks@usace.army.mil>  
**Cc:** Ryan, Kerry <KRyan@dot.state.nh.us>  
**Subject:** [EXTERNAL] RE: NHDOT District 3 Maintenance Projects NLEB Coordination- Wolfeboro, Tilton, Freedom, Eaton

Thank you, Mike!

Please let me know if USFWS responds to you about Tilton, otherwise I will assume we are all set after the 30 day timeframe.

For the No Affect projects (Freedom, Eaton and Wolfeboro), will you send us an official statement or form or should we use this email as confirmation of consultation and no further coordination required?

We will get NESHPO coordination to you for Tilton and Wolfeboro as soon as it is complete.

Meli

-----Original Message-----

**From:** Hicks, Michael C NAE [<mailto:Michael.C.Hicks@usace.army.mil>]  
**Sent:** Thursday, September 01, 2016 2:33 PM  
**To:** Dube, Melilotus  
**Cc:** Ryan, Kerry  
**Subject:** RE: NHDOT District 3 Maintenance Projects NLEB Coordination- Wolfeboro, Tilton, Freedom, Eaton

Dube and Kerry,

I sent the 4(d) letter to USFWS on 8/30/2016 for Tilton. For Freedom, Eaton, and Wolfeboro, there are either no trees being cleared, no rip rap being disturbed associated with a dam and/or they are culverts (not bridges), therefore I can make the No Affect for the NLEB and don't need to send in the 4(d) letter. I need OK from the NESHPO for Tilton and Wolfeboro. I need Small-whorled Pagonia info. on Wolfeboro. Permit for NHDOT No. 16279 (Gilford) was issued today.

Thanks,  
Mike

Michael Hicks, PM  
USACE, REG DIV., BR. C  
978-318-8157

-----Original Message-----

From: Dube, Melilotus [<mailto:MDube@dot.state.nh.us>]

Sent: Thursday, September 01, 2016 1:41 PM

To: Hicks, Michael C NAE <[Michael.C.Hicks@usace.army.mil](mailto:Michael.C.Hicks@usace.army.mil)>

Cc: Ryan, Kerry <[KRyan@dot.state.nh.us](mailto:KRyan@dot.state.nh.us)>

Subject: [EXTERNAL] NHDOT District 3 Maintenance Projects NLEB Coordination- Wolfeboro, Tilton, Freedom, Eaton

Good afternoon Mike,

Kerry and I are looking to confirm that you have received all of the information that you need from us to complete NLEB consultation with USFWS for our culvert repair projects in Wolfeboro, Tilton, Freedom and Eaton. If you could CC us on any correspondence or let us know when you send the forms in to USFWS so that we can keep track of timelines for our projects, we would really appreciate it.

Thank you!

Meli



Victoria F. Sheehan  
Commissioner

THE STATE OF NEW HAMPSHIRE  
DEPARTMENT OF TRANSPORTATION

RECEIVED

AUG 15 2016



William Cass, P.E.  
Assistant Commissioner

FREEDOM

1832H

RPR 7906

No Historic Properties Affected Memo

Pursuant to the New Hampshire Division of Historic Resources response to the Request for Project Review, dated August 4, 2016, and for the purpose of compliance with regulations of the National Historic Preservation Act, the Advisory Council on Historic Preservation's *Procedures for the Protection of Historic Properties* (36 CFR 800), and the US Army Corps of Engineers' *Appendix C*; the NH Division of Historical Resources and the US Army Corps of Engineers have coordinated the identification and evaluation of cultural resources with plans to repair a concrete box culvert carrying Old Portland Road over Bennett Brook in the town of Freedom, New Hampshire. This project will replace the concrete ceiling, floor and wingwalls in kind, without impacting the adjacent historic stone walls.


Based on these reviews, we have determined that no historic or archeological resources will be affected and that no further survey work is needed.

In accordance with the Advisory Council's regulations, we will continue to consult, as appropriate, as this project proceeds.

  
Jill Edelmann  
Cultural Resources Manager

8/15/2016  
Date

Concurred with by the NH State Historic Preservation Officer:

  
Elizabeth H. Muzzey  
State Historic Preservation Officer  
NH Division of Historical Resources

8/18/16  
Date

c.c. Meli Dube, NHDOT  
Michael Hicks, ACOE  
William Rollins, NHDOT  
Chris St. Louis, NHDHR

S:\Environment\PROJECTS\FREEDOM\1832-H\Cultural\Freedom 1832H NoHistPropAffectedACOE.doc





US Army Corps  
of Engineers ®  
New England District

**U.S. Army Corps of Engineers**  
**New Hampshire Programmatic General Permit (PGP)**  
**Appendix B - Corps Secondary Impacts Checklist**  
**(for inland wetland/waterway fill projects in New Hampshire)**

1. Attach any explanations to this checklist. Lack of information could delay a Corps permit determination.
2. All references to "work" include all work associated with the project construction and operation. Work includes filling, clearing, flooding, draining, excavation, dozing, stumping, etc.
3. See PGP, GC 5 regarding single and complete projects.
4. Contact the Corps at (978) 318-8832 with any questions.

<b>1. Impaired Waters</b>	Yes	No
1.1 Will any work occur within 1 mile upstream in the watershed of an impaired water? See <a href="http://des.nh.gov/organization/divisions/water/wmb/section401/impaired_waters.htm">http://des.nh.gov/organization/divisions/water/wmb/section401/impaired_waters.htm</a> to determine if there is an impaired water in the vicinity of your work area.*	x	
<b>2. Wetlands</b>	Yes	No
2.1 Are there are streams, brooks, rivers, ponds, or lakes within 200 feet of any proposed work?	x	
2.2 Are there proposed impacts to SAS, shellfish beds, special wetlands and vernal pools (see PGP, GC 26 and Appendix A)? Applicants may obtain information from the NH Department of Resources and Economic Development Natural Heritage Bureau (NHB) website, <a href="http://www.nhnaturalheritage.org">www.nhnaturalheritage.org</a> , specifically the book <u>Natural Community Systems of New Hampshire</u> .		x
2.3 If wetland crossings are proposed, are they adequately designed to maintain hydrology, sediment transport & wildlife passage?	x	
2.4 Would the project remove part or all of a riparian buffer? (Riparian buffers are lands adjacent to streams where vegetation is strongly influenced by the presence of water. They are often thin lines of vegetation containing native grasses, flowers, shrubs and/or trees that line the stream banks. They are also called vegetated buffer zones.)		x
2.5 The overall project site is more than 40 acres.		x
2.6 What is the size of the existing impervious surface area?	n/a	
2.7 What is the size of the proposed impervious surface area?	n/a	
2.8 What is the % of the impervious area (new and existing) to the overall project site?	n/a	
<b>3. Wildlife</b>	Yes	No
3.1 Has the NHB determined that there are known occurrences of rare species, exemplary natural communities, Federal and State threatened and endangered species and habitat, in the vicinity of the proposed project? (All projects require a NHB determination.)	x	
3.2 Would work occur in any area identified as either "Highest Ranked Habitat in N.H." or "Highest Ranked Habitat in Ecological Region"? (These areas are colored magenta and green, respectively, on NH Fish and Game's map, "2010 Highest Ranked Wildlife Habitat by Ecological Condition.") Map information can be found at: • PDF: <a href="http://www.wildlife.state.nh.us/Wildlife/Wildlife_Plan/highest_ranking_habitat.htm">www.wildlife.state.nh.us/Wildlife/Wildlife_Plan/highest_ranking_habitat.htm</a> . • Data Mapper: <a href="http://www.granit.unh.edu">www.granit.unh.edu</a> . • GIS: <a href="http://www.granit.unh.edu/data/downloadfreedata/category/databycategory.html">www.granit.unh.edu/data/downloadfreedata/category/databycategory.html</a> .		x
3.3 Would the project impact more than 20 acres of an undeveloped land block (upland, wetland/waterway) on the entire project site and/or on an adjoining property(s)?		x
3.4 Does the project propose more than a 10-lot residential subdivision, or a commercial or industrial development?		x
3.5 Are stream crossings designed in accordance with the PGP, GC 21?	x	

<b>4. Flooding/Floodplain Values</b>	<b>Yes</b>	<b>No</b>
4.1 Is the proposed project within the 100-year floodplain of an adjacent river or stream?	x	
4.2 If 4.1 is yes, will compensatory flood storage be provided if the project results in a loss of flood storage?	n/a	n/a
<b>5. Historic/Archaeological Resources</b>		
If a minor or major impact project, has a copy of the Request for Project Review (RPR) Form ( <a href="http://www.nh.gov/nhdhr/review">www.nh.gov/nhdhr/review</a> ) been sent to the NH Division of Historical Resources as required on Page 5 of the PGP?**	x	

\*Although this checklist utilizes state information, its submittal to the Corps is a Federal requirement.

\*\* If project is not within Federal jurisdiction, coordination with NH DHR is not required under Federal law.

**Standard Dredge and Fill – PHOTOGRAPHS**

**Applicant:** NHDOT Maintenance District 3

**Location:** Old Portland Road, Freedom



Site Looking West



Inlet Looking North



**Standard Dredge and Fill – PHOTOGRAPHS**

**Applicant:** NHDOT Maintenance District 3

**Location:** Old Portland Road, Freedom



Failure Looking South



Repair area



**Standard Dredge and Fill – PHOTOGRAPHS**

**Applicant:** NHDOT Maintenance District 3

**Location:** Old Portland Road, Freedom



**Repair Area Inlet**



**Repair Area Outlet**



**Standard Dredge and Fill – PHOTOGRAPHS**



**Applicant:** NHDOT Maintenance District 3

**Location:** Old Portland Road, Freedom



Outlet Looking South

# LEGEND

TYPE OF WETLAND IMPACT	PERMANENT IMPACT
N.H.V.B. (NON-WETLAND)	
N.H.V.B. & A.C.O.E. (WETLAND)	

N.H.V.B. - NEW HAMPSHIRE WETLANDS BOARD  
A.C.O.E. - ARMY CORP. OF ENGINEERS



WETLAND DESIGNATION NUMBER



WETLAND IMPACT LOCATION



WETLAND MITIGATION AREA



TEMPORARY IMPACTS



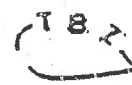
MITIGATION



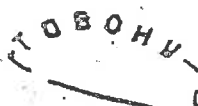
ORDINARY HIGH WATER



TOP OF BANK



TIDAL BUFFER ZONE



TOP OF BANK &  
ORDINARY HIGH WATER

SHOWN SMALLER THAN ACTUAL SIZE

WETLAND DESIGNATION	USFVS WETLAND CLASSIFICATION	LOCATION	AREA (S.F.)		
			N.H.V.B. (NON-WETLAND)	N.H.V.B. & A.C.O.E. (WETLAND)	TEMPORARY IMPACTS
1	R2UB1,2	A		30	
2	R2UB1,2	B			400
		C			
		D			
		E			
		F			
		G			
		H			
		I			

PERMANENT IMPACTS: 30 S.F.

TEMPORARY IMPACTS: 400 S.F.

TOTAL IMPACTS: 430 S.F.

N

stream

mixed  
woods

PT 430+45.

PEM/F01E

Repair the top of the box and damaged areas of the box walls, inlet and outlet. This will require the use of staging in the Brook.

psnh  
39  
20  
29  
net

CONFIDENTIAL

conc box  
cultivert

5305  
409 434

Old Portland Rd

Cemetery Road

Work will be completed during low flow conditions. Hay bales (BMP#10) downstream of the work area to contain sediment, cleanout as required. Sand bags shall be used upstream of the work area to control flow. Silt fence (BMP#8) shall be used along raw slopes for erosion and sediment control. Seed and mulch disturbed areas. Maintain erosion control devices until seeding and mulching has reestablished vegetation.

Matt Urban and Meli Dube delineated the wetlands on May 9, 2016

Impact areas are not drawn to scale. The intent is to pour a six inch wide concrete wall along the edge of both sides of the box and headers to repair the concrete that has worn off.